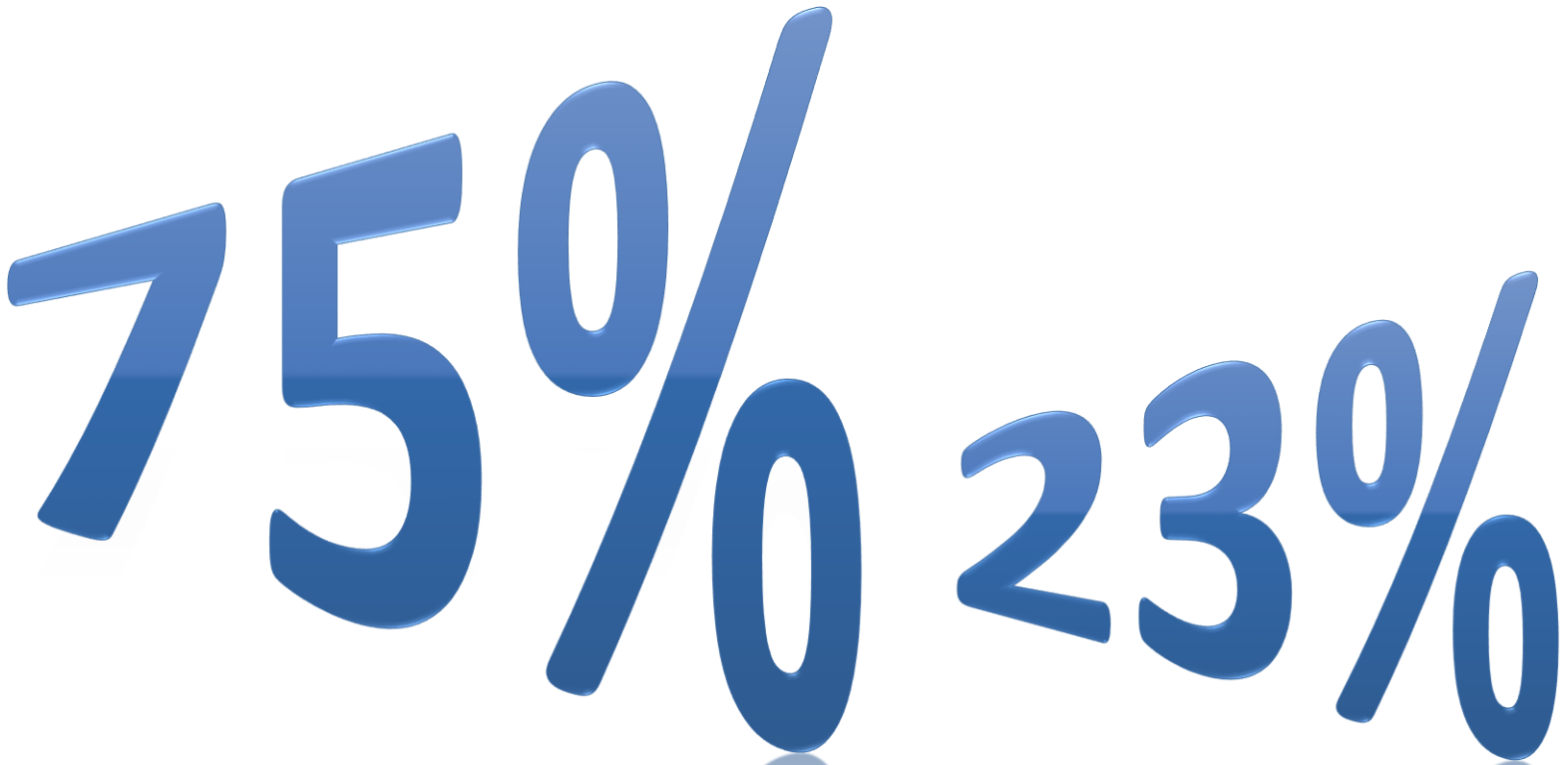
Water Loss, Use, and Conservation Data: Integration of Online Reporting

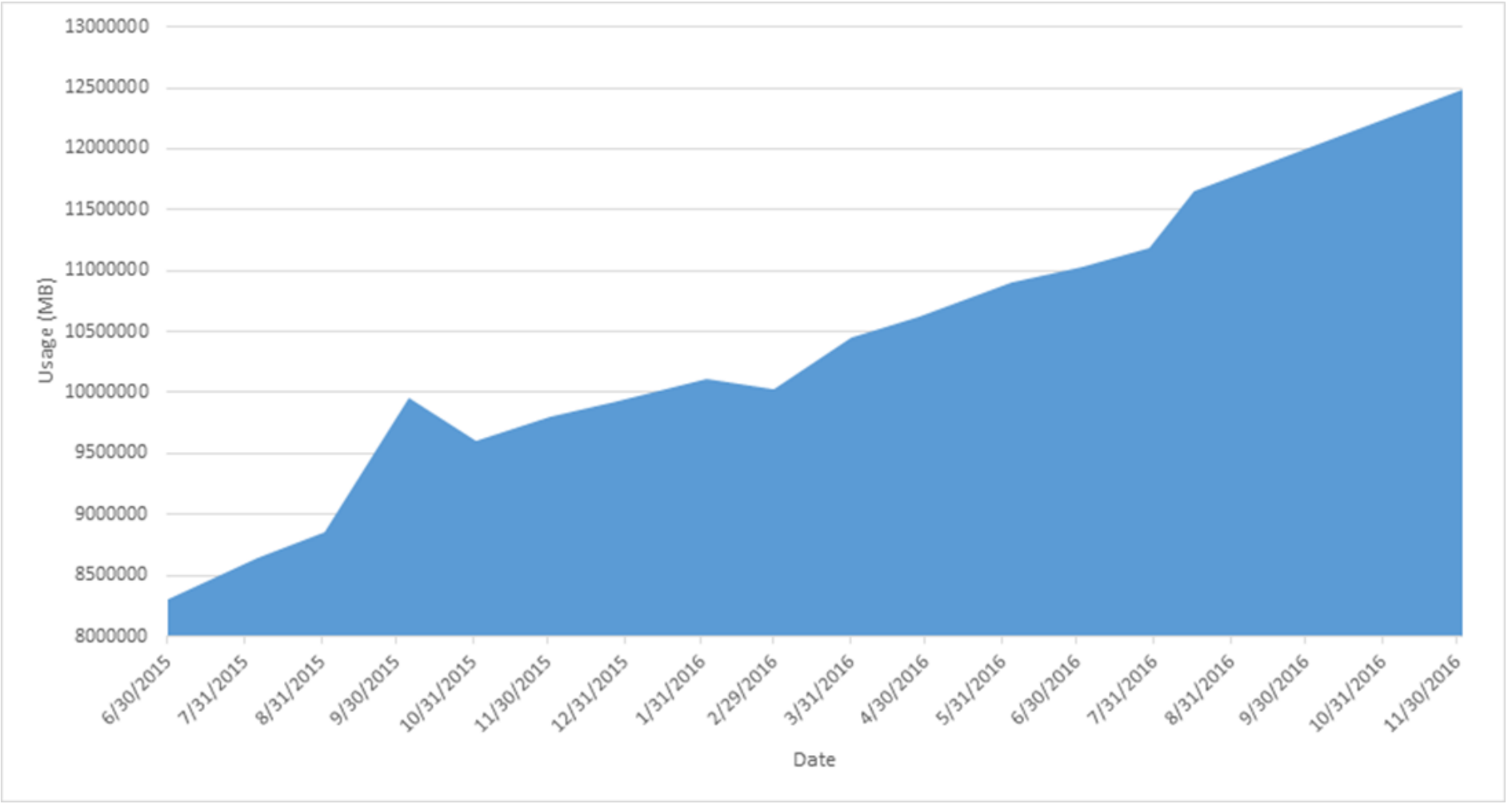
Water for Texas 2017 Conference

Kevin Kluge, Water Use and Projections Manager
John Sutton, Municipal Conservation Manager

Innovation of Information



Innovation of Information



Innovation of Information

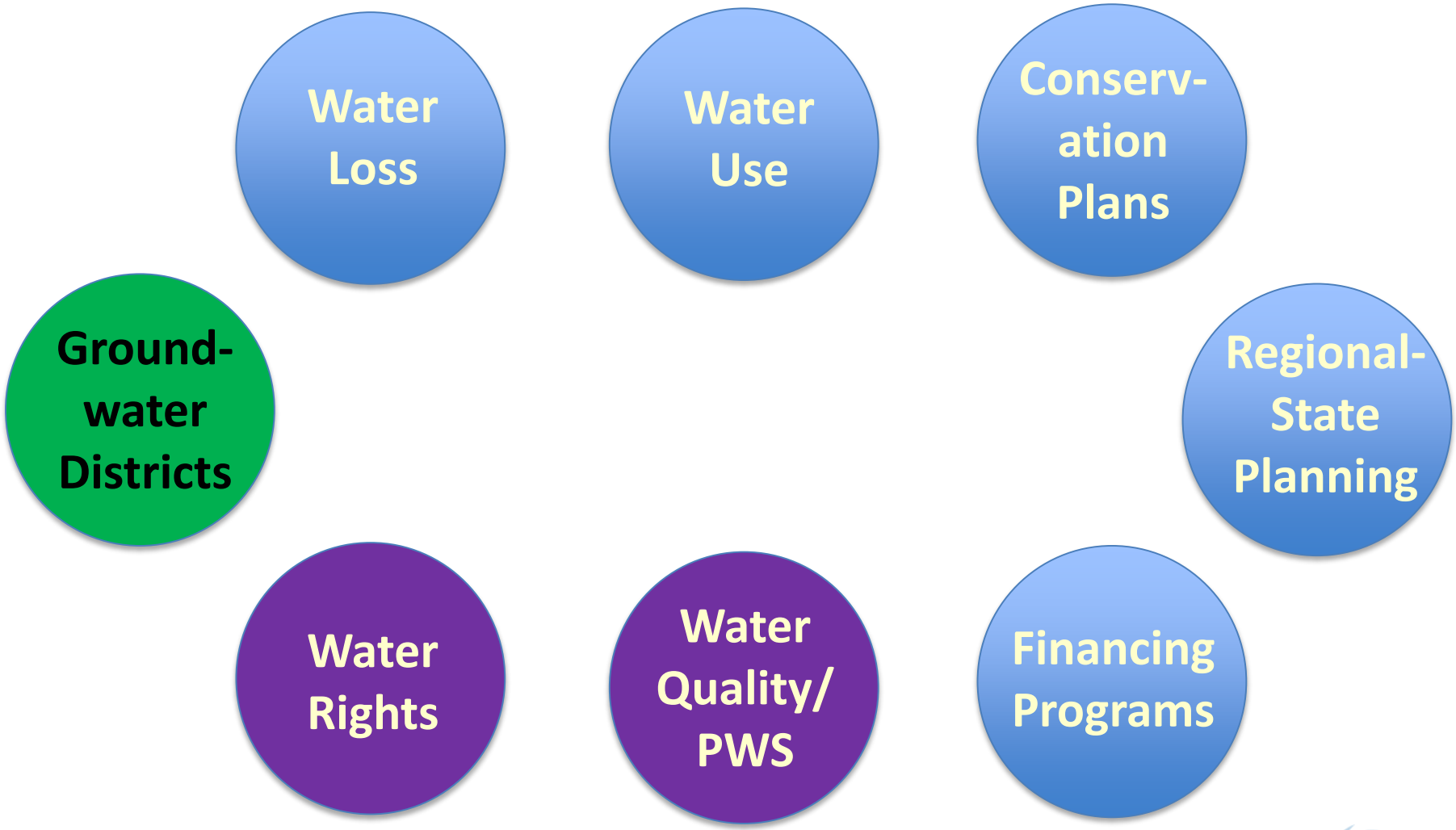
- Water data
  - Diversion & pumping volumes
  - Automatic meters (AMR/AMI)
  - Environmental / Water Quality
  - Stream gages
- Separate data collection programs
- How to make use of it all?

A Recent Statewide Approach

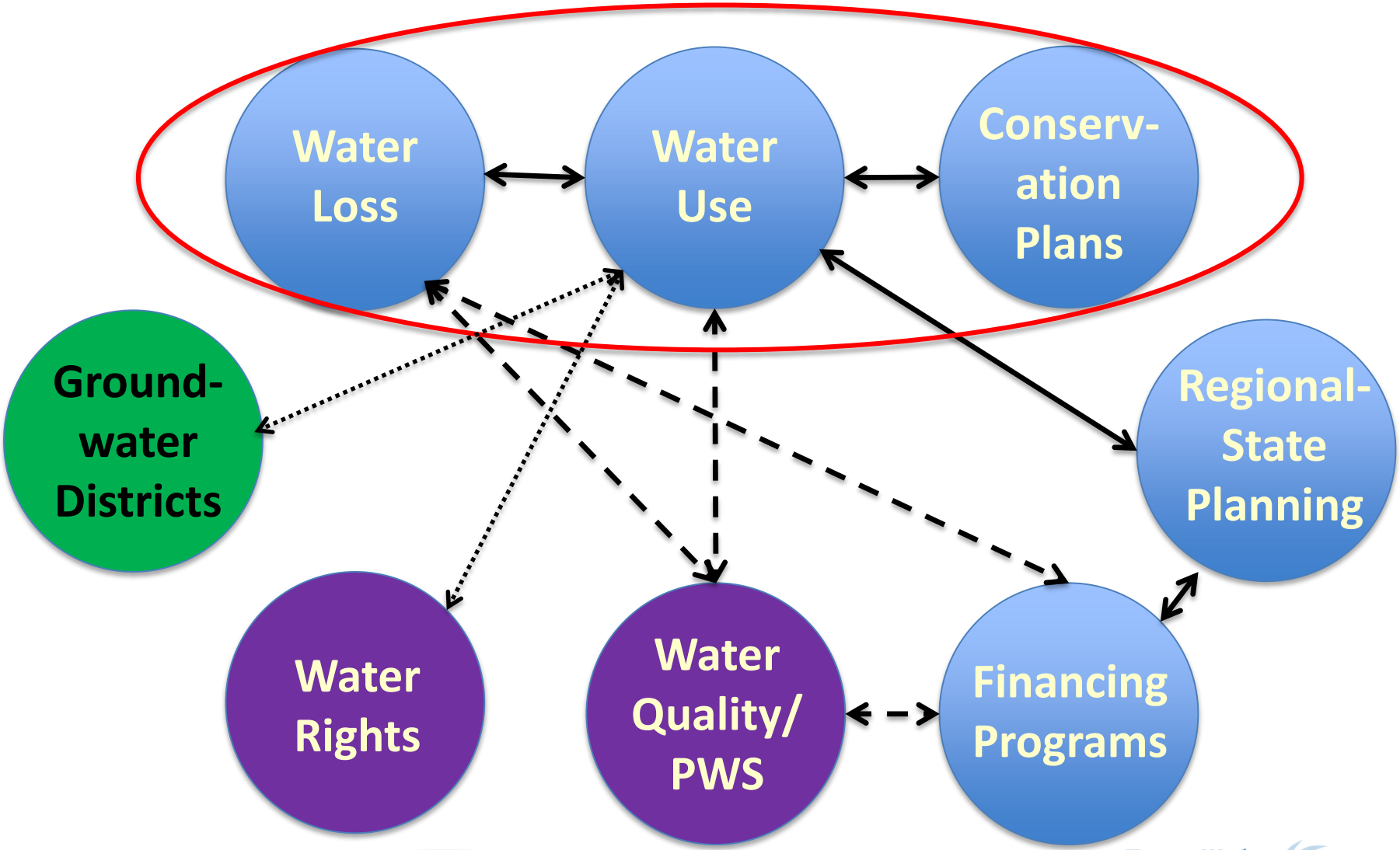
California AB 1755 - state agencies to develop a statewide integrated water data platform:

- Reservoir operations
- Groundwater use and levels
- Urban water use
- Land use
- Water right diversions and water quality
- Fish abundance and distribution
- USGS streamflow conditions
- Water transfers and exchanges

Texas Water Data Sets



Texas Water Data Pieces



Drivers of the Integration

- Three programs at the TWDB:
  - Water Use Survey
  - Water Loss Audit
  - Water Conservation Plan Annual Reports

- Same (but different) data

- Different responders

- Different response requirements

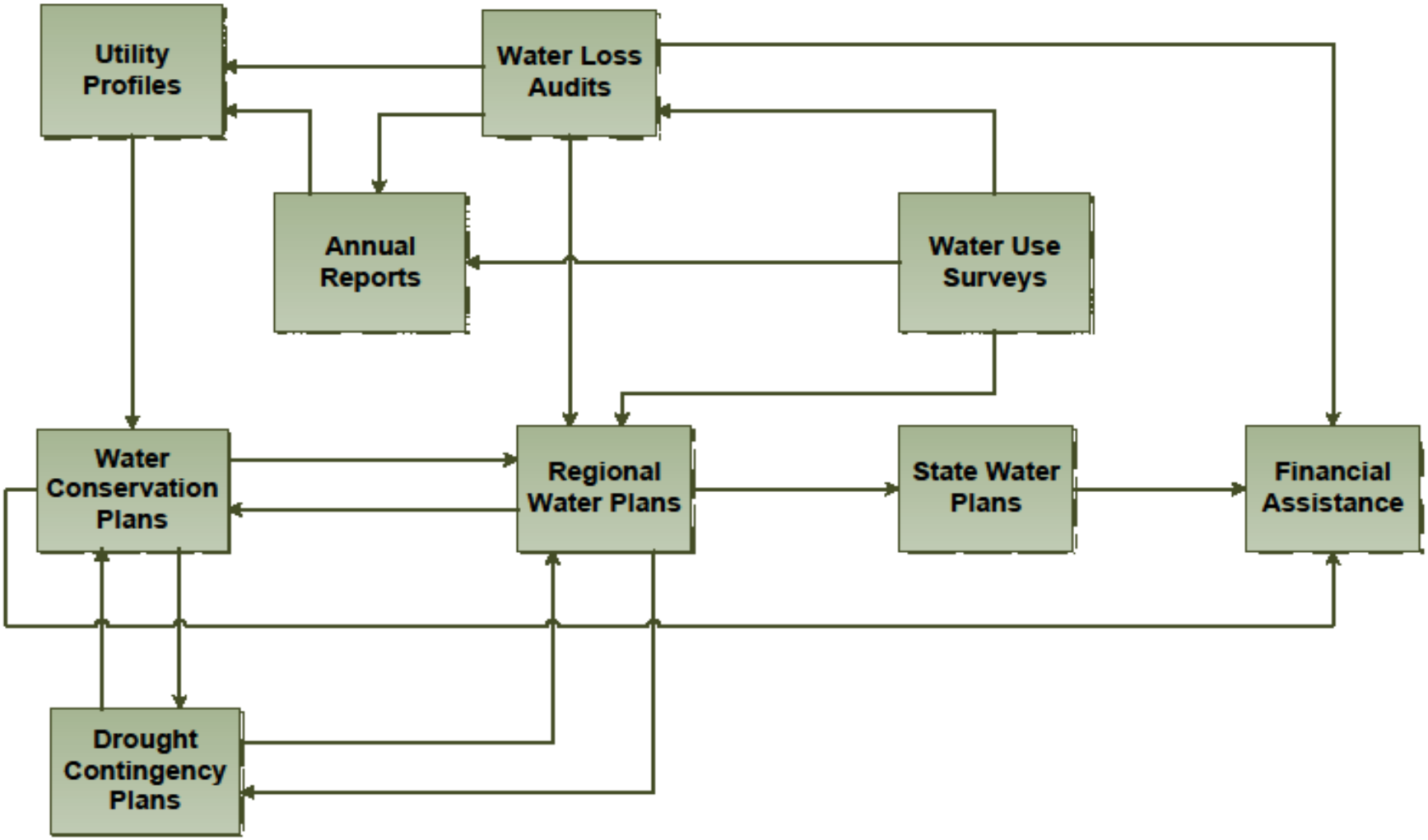
A Solution

In 2013, the 83rd Texas Legislature appropriated funds to develop an online tool to:

- Streamline the data collection for the TWDB's water planning and conservation programs,
- Eliminate redundant data entry for the required reporting documents,
- Improve the data collection process and the quality and consistence of that data, and
- Make the data accessible to the public online.

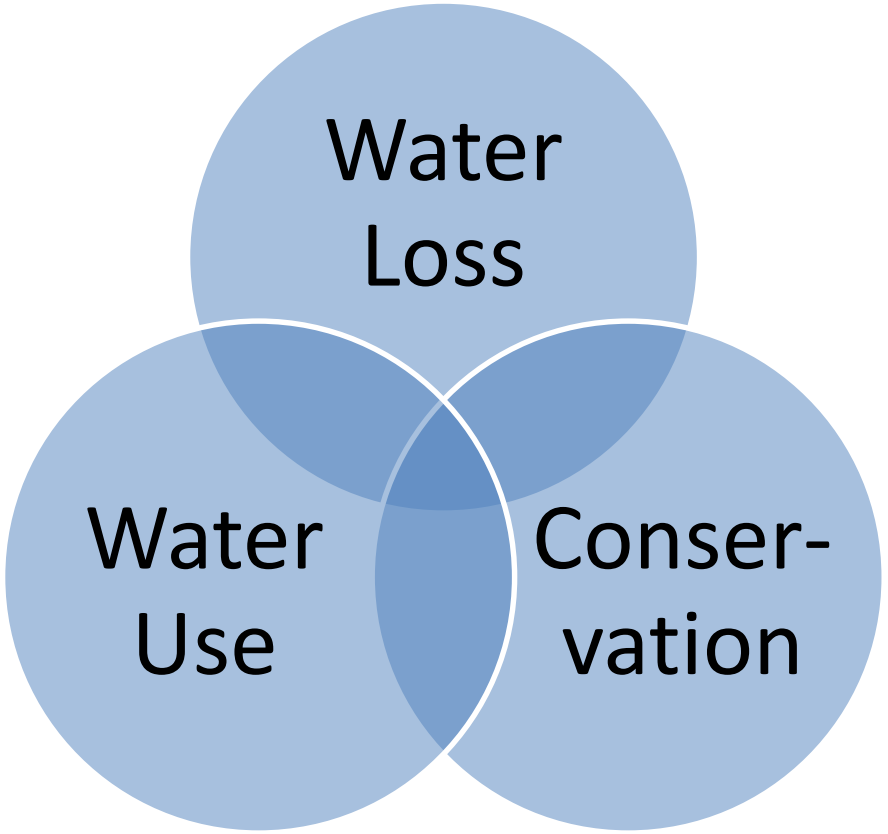
Challenges to Integration

- Each program required by statue and rule
- Existing databases and online collection
- Who and when should report?
- How to coordinate public interaction?
- Common level of detail
- How to balance links with other programs?


Utility Profiles
Water Loss Audits
Annual Reports
Water Use Surveys
Water Conservation Plans
Regional Water Plans
State Water Plans
Financial Assistance
Drought Contingency Plans

Overlapping Data

- Water in
- Water out
- Population served
- Number of connections
- Water delivered to connections



Tour of Reporting Integration

- Water Use Survey
- Water Loss Audit
- Water Conservation Plan Annual Report
- Water Conservation Plan Utility Profile

Water Use Survey

- Who? An entity using surface water or groundwater for municipal, industrial, power generation, or mining purposes

- When? By March 1 every year

- Why? To collect water use and pumping data for planning purposes

Texas Water Development Board

Water Loss, Use and Conservation

Home Logout Agency Policies Contact Webmaster

WLUC | Water Use Survey | Water Loss Audit | APM Home

Welcome to the Water Loss, Use and Conservation Home Page

Name: Kevin Kluge

Search Filter

Year: 2015

- PWS Code
- PWS Name: CITY OF AUSTIN WATER & WASTEWATER
- Survey Number
- WUS System Name

Search Reset

Water Use Survey

Water Use Survey List

Survey Number	PWS Code	System Name	Status	File Date	Authorized Users	
0041010	2270001	CITY OF AUSTIN-GENERAL DISTRIBUTION SYSTEM (AUSTIN)	Submitted		Judy Musgrove	judy.musgrove@austintexas.gov

Water Loss Audit

Water Loss Audit List

PWS Code	System Name	Year Due	Status	Submitted Date	Authorized Users	
2270001	CITY OF AUSTIN WATER & WASTEWATER	2016	Submitted	04/26/2016	Dan Strub	dan.strub@austintexas.gov
					Dan Strub	dan.strub@ci.austin.tx.us
					Vedraj Shetty	vedshetty@yahoo.com

Water Use Survey

Home | Survey List | Instructions | Addresses & Contacts | Survey Data | Submit Survey | WLUC Home | APM Home

Intakes | Sales | Connection Location | Water System Information

Previous | Next | Add Self Supplied | Add Purchased | Save | View Draft

Water Source

41010 CITY OF AUSTIN-GENERAL DISTRIBUTION SYSTEM (AUSTIN) 2015

Below are the water sources historically reported. To report the volumes pumped, diverted or purchased from each source, please select **Edit**. If additional sources need to be included, please click **Add Self Supplied** or **Add Purchased** below.

If you have **reuse** water that is distributed from your system, please include your total reuse volume as an intake as well as in the water system information page.

Note To Groundwater Users: In an effort to aid groundwater modeling, wells of public water systems can be listed individually, as water sources. Pumping volumes for specific wells and locations provided better information for the groundwater models. Providing water volumes by well is optional and groundwater users can still report combined pumpin volumes if the wells are within the same county and aquifer, as in previous years.

		Display Order		Water Type	Self Supplied / Purchased	County Name	Basin Name	Aquifer Name	Well Name	Water Right	Surface Water Name	Reuse Type	Seller Survey No	Seller Name	Total Volu Gallons
Delete	▼	1	Edit	Surface Water	Self-Supplied	TRAVIS	COLORADO			05471-1-6-A	TOWN LAKE/RESERVOIR			N/A	31,837,585
Delete	▲ ▼	2	Edit	Reuse	Self-Supplied	TRAVIS	COLORADO				UNKNOWN	Direct		N/A	148,930
Delete	▲ ▼	3	Edit	Surface Water	Purchased	TRAVIS	COLORADO				COLORADO-LAVACA RUN OF RIVER		480	LOWER COLORADO RIVER AUTHORITY-LCRA LAKE TRAVIS 14230	13,268,547
Delete	▲	4	Edit	Surface Water	Purchased						UNKNOWN		512080	AWR SERVICES INC-LOOP 360 WSC	8,800

Home | Survey List | Instructions | Addresses & Contacts | Survey Data | Submit Survey | WLUC Home | APM Home

Intakes | Sales | Connection Location | Water System Information

Previous | Next | Add Sale | Save | View Draft

Water Sales

41010 CITY OF AUSTIN-GENERAL DISTRIBUTION SYSTEM (AUSTIN) 2015

Listed below are the historically-reported water sales to public water systems and industrial production systems. For new water sales or sales that are not listed below, please select **Add Sale** and carefully search to make sure the facility name doesn't already exist in the database before creating a new facility name.

Industrial Sales

Include water sells to industrial production facilities. Please individually list the buyers when the volumes are greater than 10 million gallons.

Municipal Sales

Please list ALL water sales to other public water systems. Please do not include sales to hospitals, schools, correctional facilities, retail stores or similar sales unless your system is a city water utility and the facilities are outside of the city limits.

[SLIST]

		Display Order		Sale Type	Buyer Name	Total Volume Gallons	Water Type	County Name	Basin Name	Aquifer Name	Surface Water Name	Reuse Type	Raw or Treated	Buyer Survey No
Delete	▼	1	Edit	Municipal	CREEDMOOR MAHA WSC	77,763,600	Surface Water				UNKNOWN		Treated	191850
Delete	▲ ▼	2	Edit	Municipal	HIGH VALLEY WSC	5,957,300	Surface Water				UNKNOWN		Treated	835325
Delete	▲ ▼	3	Edit	Municipal	CITY OF MANOR	2,000	Surface Water				UNKNOWN		Treated	535000
Delete	▲ ▼	4	Edit	Municipal	MARSHA WSC	11,675,900	Surface Water				UNKNOWN		Treated	538130
Delete	▲ ▼	5	Edit	Municipal	MID-TEX UTILITIES - AVANA SUBDIVISION	14,943,900	Surface Water	TRAVIS	COLORADO		AUSTIN LAKE/RESERVOIR		Treated	1103965
Delete	▲ ▼	6	Edit	Municipal	MORNINGSIDE SUBDIVISION	1,992,700	Surface Water				UNKNOWN		Treated	1102641
Delete	▲ ▼	7	Edit	Municipal	NIGHTHAWK WSC	10,830,400	Surface Water				UNKNOWN		Treated	318025
Delete	▲ ▼	8	Edit	Municipal	CROSSROADS UTILITY SERVICES-NORTH AUSTIN MUD 1	298,843,351	Surface Water				UNKNOWN		Treated	607435

Water Use Survey

Home | Survey List | Instructions | Addresses & Contacts | Survey Data | Submit Survey | WLUC Home | APM Home

Intakes | Sales | Connection Location | Water System Information

Previous | Next | Save | View Draft

Water System Information

41010 CITY OF AUSTIN-GENERAL DISTRIBUTION SYSTEM (AUSTIN) 2015

System Class	5 = Municipal		
Wholesale Only?	☐		
What is the retail population served directly by this system?	926,624		
Retail Water Metered Please provide the total active and inactive connection and volume information for the following recommended retail customer categories. If you are unable to report for a category, please leave the field blank.	Connections	Volume In Gallons	Volume In Gallons
Residential - Single Family	197,401	13,555,634,200.000	13,555,634,200
Residential - Multi Family	5,833	8,706,481,900.000	8,706,481,900
Institutional	194	994,655,100.000	994,655,100
Commercial	17,604	9,338,981,800.000	9,338,981,800
Industrial	8	2,779,436,200.000	2,779,436,200
Agriculture	0	0.000	0
Reuse	0	0.000	0
Total Retail Metered	221,040	35,375,189,200.000	35,375,189,200
Retail Water Un-Metered	Un-Metered Connections	Un-Metered Volume In Gallons	Un-Metered Volume In Gallons
What is the total number of Un-Metered Connections and the estimate of Un-Metered Water Use?	0	85,812,164.000	85,812,164

Water Loss Audit

- Who? All public utilities every 5 years, annually if more than 3,300 connections or TWDB loan

- When? By May 1

- Why? To enable a public utility to identify significant losses in its system and for planning and assistance purposes

A. Water Utility General Information

1. Water Utility Name _____

   1a. Regional Water Planning Area ____

   1b. Address _____

   _____

2. Contact Information

   2a. Name _____

   2b. Telephone Number _____

   2c. Email Address _____

3. Reporting Period

   3a. Start Date _____

   3b. End Date _____

4. Source Water Utilization

   4a. Surface Water _____ %

   4b. Ground Water _____ %

5. Population Served

   5a. Retail Population Served* _____

   5b. Wholesale Population Served _____

6. Utility's Length of Main Lines _____ miles

7. Total Retail Metered Connections - Active and Inactive* _____

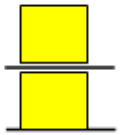
8. Number of Wholesale Connections Served _____

9. Service Connection Density _____ connections per mile

10. Average Yearly System Operating Pressure _____ psi

11. Volume Units of Measure _____ Gallons

Assessment Scale



B. System Input Volume

12. Volume of Water Intake		gallons
13. Produced Water		gallons
13a. Production Meter Accuracy		%
13b. Corrected Input Volume		gallons
14. Total Treated Purchased Water*		gallons
14a. Treated Purchased Water Meter Accuracy		%
14b. Corrected Treated Purchased Water Volume		gallons

15. Total Treated Wholesale Water Sales*		gallons
15a. Treated Wholesale Water Meter Accuracy		%
15b. Corrected Treated Wholesale Water Sales Volume		gallons
16. Total System Input Volume Line 13b + Line 14b - Line 15b		gallons

Assessment

			Assessment Scale
C. Authorized Consumption			
17. Billed Metered*		gallons	
18. Billed Unmetered		gallons	
19. Unbilled Metered		gallons	
20. Unbilled Unmetered† Use Default for flushing? Circle Y or N		gallons	
21. Total Authorized Consumption		gallons	
D. Water Losses			
22. Water Losses Line 16 - Line 21		gallons	
E. Apparent Losses			
23. Average Customer Meter Accuracy		%	
24. Customer Meter Accuracy Loss		gallons	
25. Systematic Data Handling Discrepancy† Use default for theft? Circle Y or N		gallons	
26. Unauthorized Consumption† Use default for theft? Circle Y or N		gallons	
27. Total Apparent Losses		gallons	
F. Real Losses			
28. Reported Breaks and Leaks		gallons	
29. Unreported Loss		gallons	
30. Total Real Losses Line 28 + Line 29		gallons	
31. Total Water Losses Line 27 + Line 30		gallons	
32. Non-Revenue Water Line 31 + Line 19 + Line 20		gallons	

G. Technical Performance Indicator for Apparent Loss

33. Apparent Losses Normalized
    Line 27 / Line 7 / 365 _____ gallons lost per connection per day

TEXAS WATER DEVELOPMENT BOARD

P.O. BOX 13231, CAPITOL STATION

AUSTIN, TX 78711-3231

2015 WATER AUDIT REPORT

H. Technical Performance Indicators for Real Loss

34. Real Loss Volume
    Line 30 _____ gallons

35. Unavoidable Annual Real Losses Volume
    (5.41 * Line 6 + (Line 7 * 0.15)) * 365 * Line 10 _____ gallons

36. Infrastructure Leakage Index
    Line 34 / Line 35 _____ I.L.I

37. Real Losses Normalized - Service Connections
    Line 34 / Line 7 / 365 _____ gallons lost per connection per day

38. Real Losses Normalized - Main Lines
    Line 34 / Line 6 / 365 _____ gallons lost per mile per day

I. Financial Performance Indicators

Assessment Scale

39. Total Apparent Losses
    Line 27 _____ gallons

40. Retail Price of Water _____ $/gallons

41. Cost of Apparent Losses
    Line 39 x Line 40 _____

42. Total Real Losses
    Line 30 _____ gallons

43. Variable Production Cost of Water _____ $/gallons

44. Cost of Real Losses
    Line 42 x Line 43 _____

45. Total Cost Impact of Apparent and Real Losses
    Line 41 + Line 44 _____

46. Total Assessment Score _____

J. System Losses and Gallons Per Capita per Day (GPCD)

47. Total Water Loss - Percentage _____ %

48. GPCD Input
    Line 16 / Line 5a / 365 _____

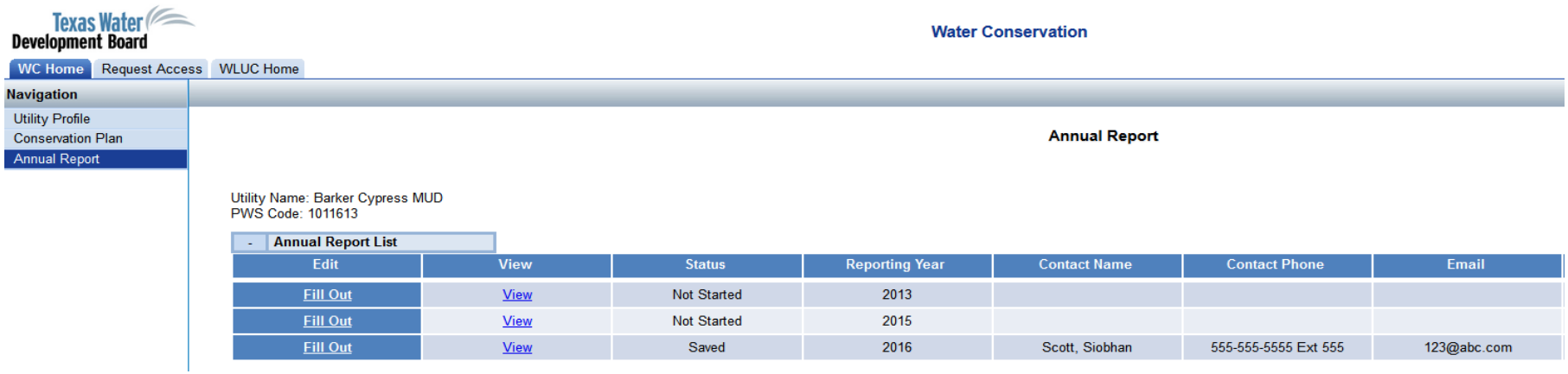
49. GPCD Loss
    Line 31 / Line 5a / 365 _____

Water Conservation Annual Report

Who?

- An entity with active financial obligations with the TWDB greater than $500,000
- An entity with 3,300 or more connections
- An entity with a non-irrigation surface water right greater than 1,000 acre-feet/year
- An entity with an irrigation surface water right greater than 10,000 acre-feet/year

Water Conservation Annual Report


Texas Water Development Board
Water Conservation
WC Home
Request Access
WLUC Home
Navigation
Utility Profile
Conservation Plan
Annual Report
Annual Report
Utility Name: Barker Cypress MUD
PWS Code: 1011613
- Annual Report List
Edit | View | Status | Reporting Year | Contact Name | Contact Phone | Email
Fill Out | View | Not Started | 2013
Fill Out | View | Not Started | 2015
Fill Out | View | Saved | 2016 | Scott, Siobhan | 555-555-5555 Ext 555 | 123@abc.com

Water Conservation

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Next | Save | Cancel

- Utility Profile
- Conservation Plan
- \+ Annual Report

Annual Report - Retail Water Supplier

CONTACT INFORMATION

Certification of Convenience and Necessity (CCN) Number: **4596**

Surface Water Right ID Number:

Wastewater ID Number: **7136234531**

Check all that apply:

- ☐ Retail Water Supplier
- ☐ Wholesale Water Supplier
- ☐ Wastewater Treatment Utility

Annual Report Contact Information:

Last Name:

First Name:

Title:

Address:

City: State: Select Zip: Zip+4:

Email:

Phone: x

Regional Water Planning Group: K

Groundwater Conservation District: 195501AX

Reporting Period (Calendar year)

Period Begin 01/2016 Period End 12/2016

Our records indicate that you:

- ☐ Received financial assistance of $500,000 or more from TWDB
- ☑ Have 3,300 or more retail connections
- ☐ Have a surface water right with TCEQ

Next | Save | Cancel

Annual Report - Retail Water Supplier

CONTACT INFORMATION

- Utility Profile
- Conservation Plan
- \+ Annual Report

Annual Report - Retail

SYSTEM DATA

Water Utility General Information

Name of Utility: **Barker Cypress MUD**

1. For this reporting period, select the category(s) used to classify customer water usage:

	Retail Customer Water Usage Categories
☑	Residential - Single Family
☑	Residential - Multi-family
☑	Industrial
☑	Commercial
☑	Institutional
☑	Agricultural

Retail Customers Categories*

- Residential Single Family
- Residential Multi-family
- Industrial
- Commercial
- Institutional
- Agricultural

**Recommended Customer Categories for classifying customer water use. For definitions, refer to Guidance and Methodology on Water Conservation and Water Use.*

2. For this reporting period, enter the number of connections for and the gallons of metered retail water used by each category. If the Customer Category does not apply, enter zero or leave blank. These numbers should be the same as those reported on the Water Use Survey.

Retail Customer Category	Number of Connections	Gallons Metered
Residential - Single Family	2,000	6,000,000
Residential - Multi-family	500	1,500,000
Industrial	250	750,000
Commercial	250	750,000
Institutional	250	750,000
Agricultural	250	750,000
Total Retail Water Metered[1]	3,500	10,500,000

[1]Residential + Industrial + Commercial + Institutional + Agricultural = Total Retail Water Metered

Annual Report - Retail

Retail Water Use Accounting

	Total Gallons During the Reporting Period
1. Corrected Input Volume: The volume of treated water input to the distribution system from own production facilities. Same as line 13b of the Water Loss Audit for reporting periods >= 2015. Same as line 14 of the Water Loss Audit for reporting periods <= 2014.	
2. Corrected Treated Purchased Water Volume: The amount of treated purchased wholesale water transfered into the utility's distribution system from other water suppliers system. Same as line 14b of the Water Loss Audit for reporting periods >= 2015. Same as line 15 of the Water Loss Audit for reporting periods <= 2014.	
3. Corrected Treated Wholesale Water Sales Volume: The amount of treated wholesale water transfered out of the utility's distribution system, although it may be in the system for a brief time for conveyance reasons. Same as line 15b of the Water Loss Audit for reporting periods >= 2015. Same as line 16 of the Water Loss Audit for reporting periods <= 2014.	
4. Total System Input Volume: This is the sum of the corrected input volume plus corrected treated purchased water volume minus corrected treated wholesale water sales volume. Same as line 16 of the Water Loss Audit for reporting periods >= 2015. Same as line 17 of the Water Loss Audit for reporting periods <= 2014. Produced + Imported - Exported = Total System Input Volume	0
5. Billed Metered: All retail water sold and metered. Same as line 17 of the Water Loss Audit for reporting periods >= 2015. Same as line 18 of the Water Loss Audit for reporting periods <= 2014.	
6. Other Authorized Consumption: Water that is authorized for other uses such as back flushing, line flushing, storage tank cleaning, fire department use, municipal government offices or municipal golf courses/parks. This water may be metered or unmetered. Same as lines 18, 19, and 20 of the Water Loss Audit for reporting periods >= 2015. Same as lines 19, 20, and 21 of the Water Loss Audit for reporting periods <= 2014.	
7. Total Authorized Consumption: All water that has been authorized for use. Same as Line 21 of the Water Loss Audit for reporting periods >= 2015. Same as line 22 of the Water Loss Audit for reporting periods <= 2014. Total Billed and Metered Retail Water + Other Authorized Consumption = Total Authorized Consumption	0
8. Total Apparent Losses: Water that has been consumed but not properly measured or billed (losses due to customer meter inaccuracy, systematic data handling discrepancy and/or unauthorized consumption such as theft). Same as line 27 of the Water Loss Audit for reporting periods >= 2015. Same as line 28 of the Water Loss Audit for reporting periods <= 2014.	

- Utility Profile
- Conservation Plan
- \+ Annual Report

Annual Report - Retail

Retail Conservation Programs and Activities

Water Utility General Information

Name of Utility: **Barker Cypress MUD**

1. What year did your entity adopt or revise their most recent Water Conservation Plan? 2011

2. Does The Plan incorporate Best Management Practices?
   - ○ Yes
   - ◉ No

3. Using the table below select the types of Best Management Practices or water conservation and reuse strategies actively administered during this reporting period and estimate the savings incurred in implementing water conservation and reuse activities and programs. Leave fields blank if unknown. Please separate reuse volumes from gallons saved.

Methods and techniques for determining gallons saved are unique to each utility as they conduct internal cost analyses and long-term financial planning. Texas Best Management Practice can be found at TWDB's Wate Conservation Best Management Practices webpage. The Alliance for Efficiency Water Conservation Tracking Tool may offer guidance on determining and calculating savings for individual BMPs.

Best Management Practice	Check if implemented	Estimated Gallons Saved	Estimated Gallons Reused
Conservation Analysis and Planning			
Conservation Coordinator	☑		
Cost Effective Analysis	☐		

Texas Water Development Board

Water Conservation

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- Utility Profile
- Conservation Plan
- \+ Annual Report

Annual Report - Retail

Leak Detection and Water Loss

Water Utility General Information

Name of Utility: **Barker Cypress MUD**

1. During this reporting period, how many leaks were repaired in the system or at service connections?

2. Select the main cause(s) of water loss in your system.

	Water Loss Causes
☐	Distribution line leaks and breaks
☐	Unauthorized use and theft
☐	Master meter problems
☐	Customer meter problems
☐	Record and data problems
☑	Other

Describe any OTHER causes for water loss.
Files to support or explain this may be attached below.

- Utility Profile
- Conservation Plan
- \+ Annual Report

Annual Report - Retail

Water Loss, Target and Goals

Total, Residential and Water Loss Gallons Per Capita per Day (GPCD) and Water Loss Percentage

The tables below display your current GPCD totals and water loss percentage for your service area.

Total System Input in Gallons Water Produced + Wholesale Imported - Wholesale Exported	Retail Population[1]	Total GPCD (System Input / Retail Population) / 365
0		0

[1]Retail Population is the total permanent population of the service area, including single family, multi-family, and group quarter populations

Residential Use in Gallons (Single Family + Multi-family)	Residential Population[2]	Residential GPCD (Residential Use / Residential Population) / 365
2,500		0

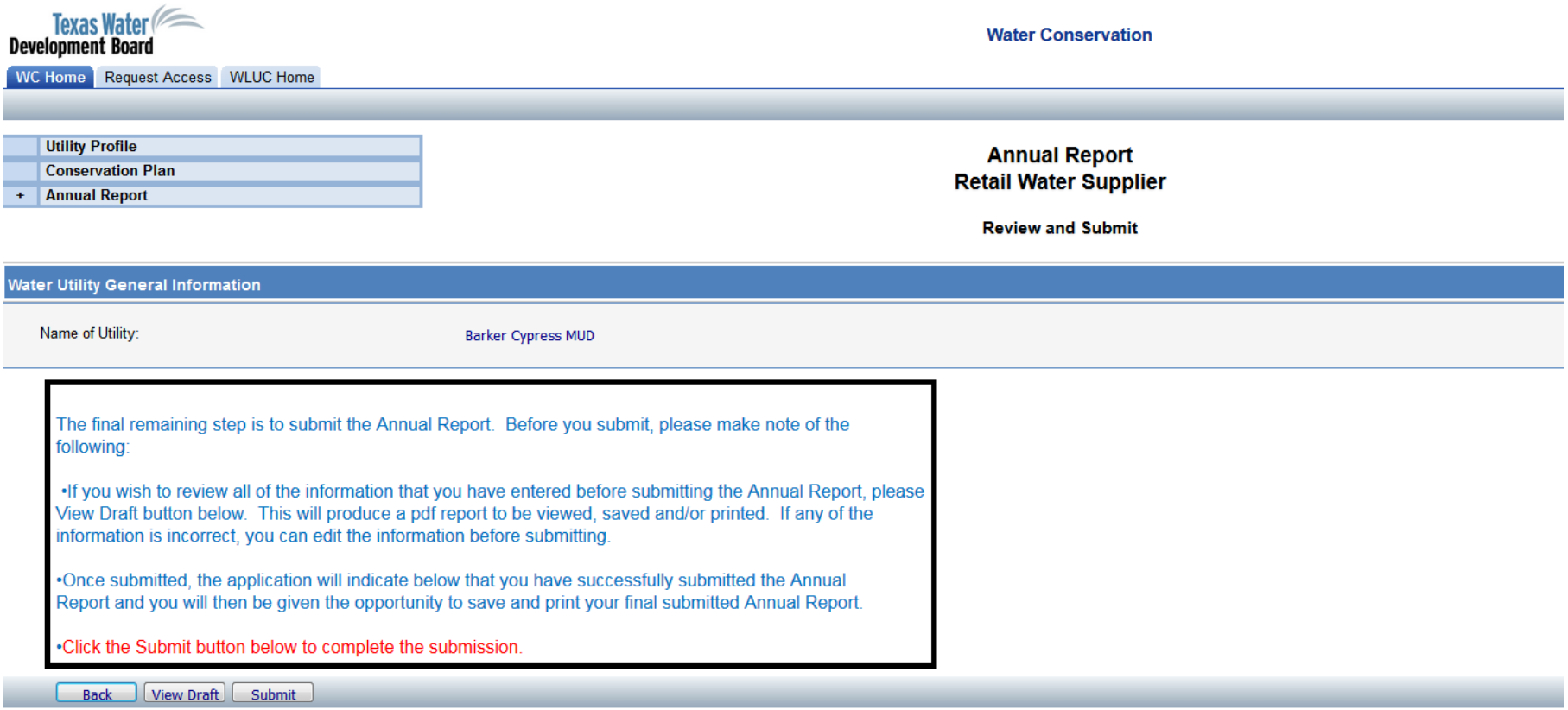
[2]Residential Population is the total residential population of the service area, including only single family and multi-family populations

Total Water Loss in Gallons Apparent + Real = Total Water Loss	Retail Population	Water Loss GPCD[3]	Water Loss Percent[4]
0		0	0.00 %

[3](Total Water Loss / Residential Population) / 365 = Water Loss GPCD
[4](Total Water Loss / Total System Input) * 100 = Water Loss Percentage

The table below display the specific and quantified five-year and ten-year goals listed in your current Water Conservation Plan alongside the current GPCD and water loss totals.

Achieve Date	Target for Total GPCD	Current Total GPCD	Target for Residential GPCD	Current Residential GPCD	Target for Water Loss GPCD	Current Water Loss GPCD	Target for Water Loss Percentage	Current Water Loss Percentage
Five-year Target Date 2016		0		0		0		0.00 %
Ten-year Target Date 2021		0		0		0		0.00 %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Utility Profile
Conservation Plan
+ Annual Report
Annual Report
Retail Water Supplier
Review and Submit
Water Utility General Information
Name of Utility:
Barker Cypress MUD
The final remaining step is to submit the Annual Report. Before you submit, please make note of the following:
•If you wish to review all of the information that you have entered before submitting the Annual Report, please View Draft button below. This will produce a pdf report to be viewed, saved and/or printed. If any of the information is incorrect, you can edit the information before submitting.
•Once submitted, the application will indicate below that you have successfully submitted the Annual Report and you will then be given the opportunity to save and print your final submitted Annual Report.
•Click the Submit button below to complete the submission.
Back
View Draft
Submit

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Water Conservation

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	Utility Profile
	Conservation Plan
+	Annual Report

Annual Report
Retail Water Supplier

Review and Submit

Water Utility General Information

Name of Utility: Barker Cypress MUD

You have successfully submitted this Annual Report.

Click here to view a pdf of the submitted Annual Report.
Click here to return to the Annual Report List.

Utility Profile

- The first component in developing a Water Conservation Plan
- To assist you with water conservation plan development
- Ensure that important information and data about your utility system be considered when preparing your water conservation plan and its target and goals

- Utility Profile
- Conservation Plan
- Annual Report

Utility Profile
Retail Water Supplier

SECTION I: Utility Data

Water Utility General Information

Name of Utility: Barker Cypress MUD

A. Population and Service Area Data

1. Current service area size in square miles: 400

Upload a map of the service area:

Attach File(s)

View	Delete	File Name	File Description
		101 Ways to Cope With Stress.docx	
		HBday.jpg	
		Computer Inventory 161028.xlsx	

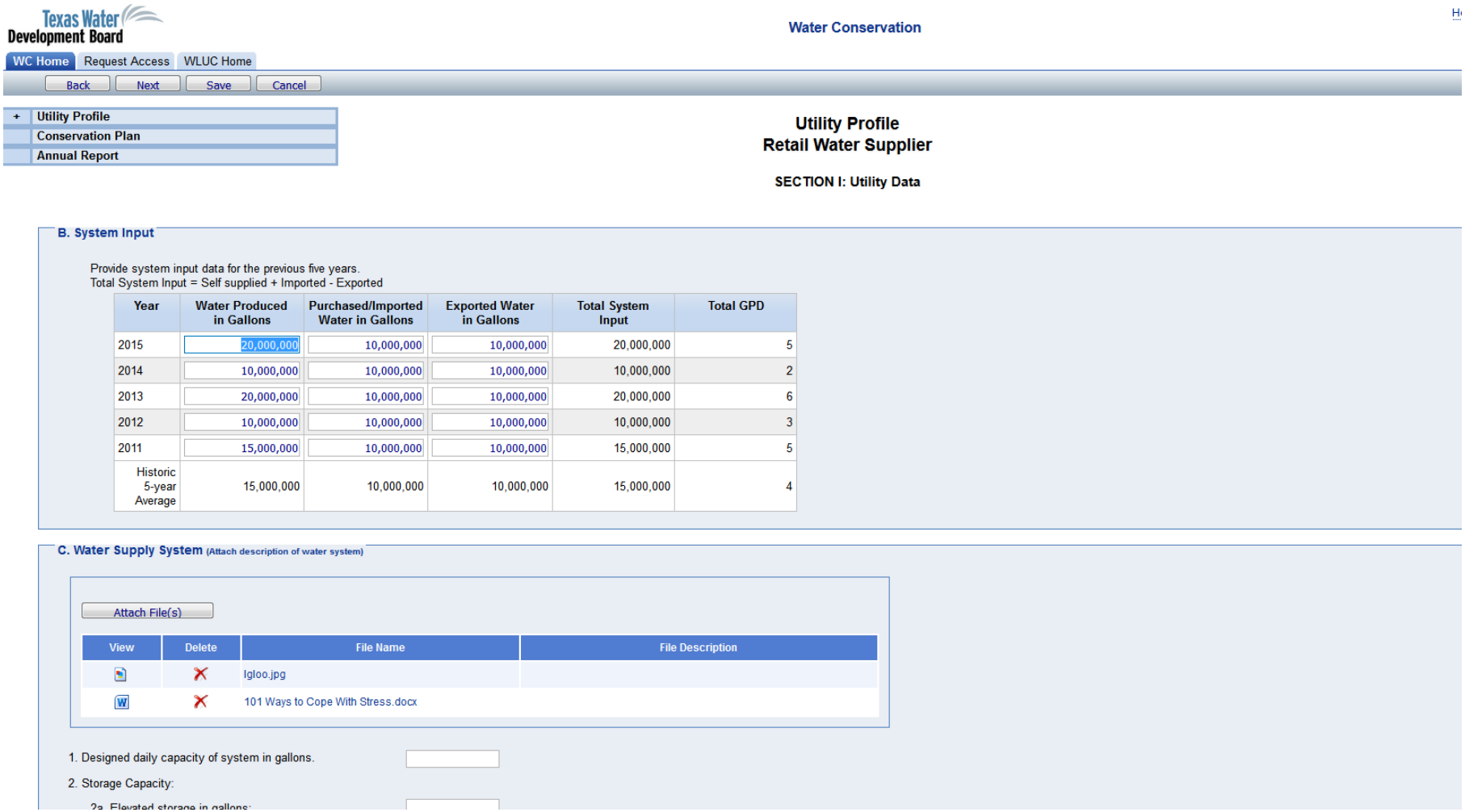
2. Provide historical service area population for the previous five years, starting with the most current year.

Year	Historical Population Served By Retail Water Service	Historical Population Served By Wholesale Water Service	Historical Population Served By Wastewater Service
2015	10,000	10,000	10,000
2014	9,500	9,500	9,500
2013	9,000	9,000	9,000
2012	8,500	8,500	8,500
2011	8,000	8,000	8,000

3. Provide the projected service area population for the following decades.

Year	Projected Population Served By Retail Water Service	Projected Population Served By Wholesale Water Service	Projected Population Served By Wastewater Service
2020	10,100	10,100	10,100
2030	10,200	10,200	10,200
2040	10,300	10,300	10,300
2050	10,400	10,400	10,400
2060	10,500	10,500	10,500

4. Describe the source(s)/method(s) for estimating current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B. System Input
Provide system input data for the previous five years.
Total System Input = Self supplied + Imported - Exported
Year | Water Produced in Gallons | Purchased/Imported Water in Gallons | Exported Water in Gallons | Total System Input | Total GPD
2015 | 20,000,000 | 10,000,000 | 10,000,000 | 20,000,000 | 5
2014 | 10,000,000 | 10,000,000 | 10,000,000 | 10,000,000 | 2
2013 | 20,000,000 | 10,000,000 | 10,000,000 | 20,000,000 | 6
2012 | 10,000,000 | 10,000,000 | 10,000,000 | 10,000,000 | 3
2011 | 15,000,000 | 10,000,000 | 10,000,000 | 15,000,000 | 5
Historic 5-year Average | 15,000,000 | 10,000,000 | 10,000,000 | 15,000,000 | 4
C. Water Supply System (Attach description of water system)
Attach File(s)
View | Delete | File Name | File Description
Igloo.jpg
101 Ways to Cope With Stress.docx
1. Designed daily capacity of system in gallons.
2. Storage Capacity:
2a. Elevated storage in gallons:

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SECTION II: System Data

A. Retail Water Supplier Connections

1. List the active retail water supplier connections by major water use category.

Water Use Category*	Total Retail Water Supplier Connections (Active + Inactive)	Percent of Total Connections
Residential - Single Family	2,000	66.67 %
Residential - Multi-Family	500	16.67 %
Industrial	125	4.17 %
Commercial	125	4.17 %
Institutional	125	4.17 %
Agricultural	125	4.17 %
Total	3,000	100.00 %

* For definitions on recommended customer categories for classifying customer water use, refer to the Guidance and Methodology for Reporting on Water Conservation and Water Use

2. List the net number of new retail water supplier connections by water use category for the previous five years.

Water Use Category*	Net Number of New Retail Water Supplier Connections						
	Residential - Single Family	Residential - Multi-family (units)	Industrial	Commercial	Institutional	Agricultural	Total
2015							0
2014							0
2013							0
2012							0
2011							0

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SECTION II: System Data

Water Utility General Information

Name of Utility: Barker Cypress MUD

B. Accounting Data

1. For the previous five years, enter the number of gallons of RETAIL WATER SUPPLIER water exported (sold or transferred) to each major water use category.

Water Use Category	Residential - Single Family	Residential - Multi-family (units)	Industrial	Commercial	Institutional	Agricultural	Total
2015	6,000,000	3,000,000	250,000	250,000	250,000	250,000	10,000,000
2014	6,000,000	3,000,000	250,000	250,000	250,000	250,000	10,000,000
2013	6,000,000	3,000,000	250,000	250,000	250,000	250,000	10,000,000
2012	6,000,000	3,000,000	250,000	250,000	250,000	250,000	10,000,000
2011	6,000,000	3,000,000	250,000	250,000	250,000	250,000	10,000,000

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Water Utility General Information

Name of Utility: Barker Cypress MUD

C. Residential Water Use

For the previous five years, enter the residential GPCD. Please note: if you have an annual report on file for a particular year, the Total Residential GPCD will be pre-populated.

If you are able to distinguish between single family and multi-family units, enter those values in the appropriate columns.

Water Use Category	Residential - Single Family	Residential - Multi-family (units)	Total Residential
2015	80	70	150
2014	85	75	160
2013	90	80	170
2012	95	85	180
2011	100	90	190
Historic 5-year Average	90	80	170

Utility Profile for Retail Water Supplier

SECTION II: System Data

Water Utility General Information

Name of Utility: Barker Cypress MUD

D. Annual and Seasonal Water Use

1. For the previous five years, enter the gallons of TREATED water provided to RETAIL WATER SUPPLIER customers.

Total Gallons of Treated Water	2015	2014	2013	2012	2011
January	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
February	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
March	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
April	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
May	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
June	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
July	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
August	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000

2. For the previous five years, enter the gallons of RAW water provided to RETAIL WATER SUPPLIER customers.

Total Gallons of Raw Water	2015	2014	2013	2012	2011
January	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
February	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
March	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
April	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
May	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
June	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
July	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
August	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
September	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
October	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
November	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
December	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
Total	12,000,000	12,000,000	12,000,000	12,000,000	12,000,000

3. Summary of seasonal and annual water use.

	Summer RETAIL WATER SUPPLIER (Treated + Raw)	Total RETAIL WATER SUPPLIER (Treated + Raw)
2015	6,000,000	24,000,000
2014	6,000,000	24,000,000
2013	6,000,000	24,000,000
2012	6,000,000	24,000,000
2011	6,000,000	24,000,000
5 yr Average in Gallons	6,000,000	24,000,000

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SECTION II: System Data

Water Utility General Information

Name of Utility: Barker Cypress MUD

E. Water Loss

Provide Water Loss Data for the previous five years.

Year	Total Water Loss in Gallons	Water Loss in GPCD	Water Loss As Percentage
2015	12,000,000	120	12.00%
2014	12,000,000	120	12.00%
2013	12,000,000	120	12.00%
2012	12,000,000	120	12.00%
2011	12,000,000	120	12.00%
5-year Average	12,000,000	120	12.00%

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Water Utility General Information

Name of Utility: Barker Cypress MUD

F. Peak Day Use

Year	Average Daily Use (gal)	Peak Day Use (gal)	Ratio (peak/avg)
2011	65,753	65,217	0.9918
2012	65,753	65,217	0.9918
2013	65,753	65,217	0.9918
2014	65,753	65,217	0.9918
2015	65,753	65,217	0.9918

G. Summary of Historic Water Use

Water Use Category	Historic 5-year Average	Percent of Connections	Percent of Water Use
Residential - Single Family	6,000,000	66.67%	60.00%
Residential - Multi-Family	3,000,000	16.67%	30.00%
Industrial	250,000	4.17%	2.50%
Commercial	250,000	4.17%	2.50%
Institutional	250,000	4.17%	2.50%
Agricultural	250,000	4.17%	2.50%

Water Conservation Plan

- Ensure water use efficiency within your operation
- A strategy or combination of strategies for reducing the consumption of water, reducing the loss or waste of water, improving or maintaining the efficiency in the use of water, or increasing recycling and reuse of water
- Best management practice measures to meet the targets and goals identified within the plan
  - 5- and 10-year goals for:
    - Total GPCD
    - Residential GPCD
    - Water Loss in GPCD
- Revised every 5 years

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Water Conservation Plan

5-AND 10-YR GOALS FOR WATER SAVINGS
For Retail Water Supplier

Water Utility General Information

Name of Utility: Barker Cypress MUD

Provide specific and quantified five- and 10-year goals in the table below.
In the first column, historic data, if available, from previously submitted annual reports has been entered.

For assistance in determining how to identify appropriate goals for your Water Conservation Plan,
refer to Water Conservation Plans ~ Identifying Targets and Goals.

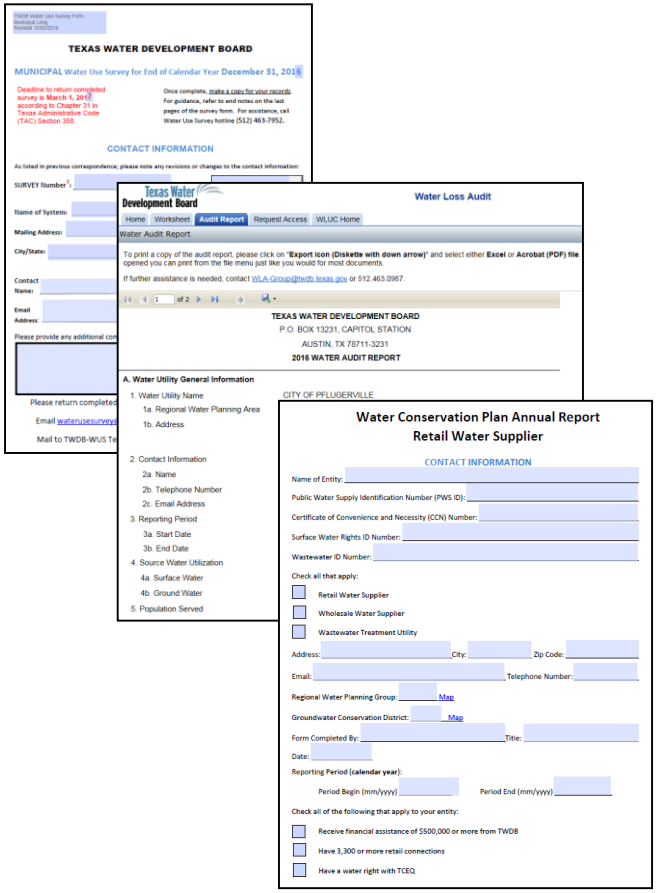
	Historic 5 Year Average	Baseline	5-Year Goal For year 2021	10-Year Goal For year 2026
Total GPCD[1]	15,000,000			
Residential GPCD[2]	0			
Water Loss (GPCD)[3]	120			
Water Loss Percentage[4]	0.00 %	0.00 %	0.00 %	0.00 %

1. Total GPCD = (Total Gallons in System / Permanent Population) / 365
2. Residential GPCD = (Gallons used for Residential use / Residential Population) / 365
3. Water Loss GPCD = (Total Water Loss / Permanent Population) / 365
4. Water Loss Percentage = (Total Water Loss / Total Gallons in System) x 1000 or (Water Loss GPCD / Total GPCD) x 100

Upload Conservation Plan:

Attach File(s)

Integrated Display of Information



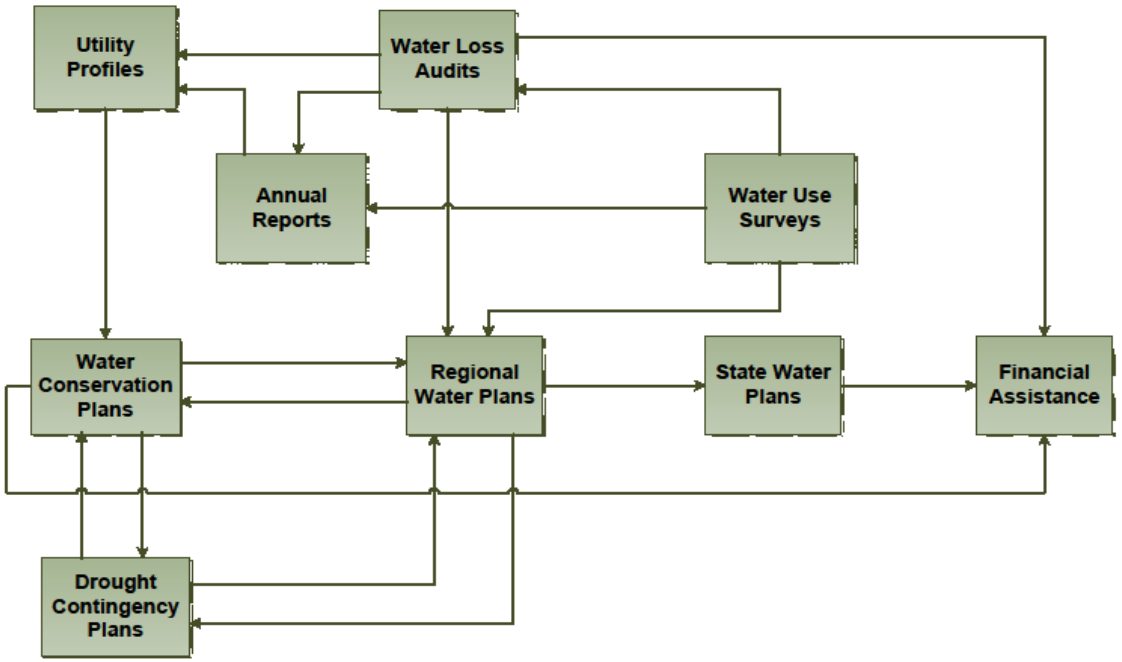
Utility Report

Use

Lose

Conserve

LUC Information Innovation



- Consistency of data
- Validity of data
- Bigger picture of information

Thank You

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